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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/697,948	10/31/2003	Bernhard Kappler	1509-454	9403

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EXAMINER

DOAN, DUC T

ART UNIT	PAPER NUMBER
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2188

DATE MAILED: 04/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/697,948

Applicant(s)

KAPPLER, BERNHARD

Examiner

Duc T. Doan

Art Unit

2188

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 February 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)     | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Status of Claims***

Claims 1-23 have been presented for examination in this application. In response to the last Office Action, the title and specification were amended. Claims 1-2,,11-14,16,20-23 were amended. As a result, claims 1-23 are now pending in this application.

Claims 1-23 are rejected.

Applicant's arguments filed 2/23/06 have been fully considered but they are mooted in view of new ground(s) of rejection necessitated by the Applicant's amendments to the claims.

All rejections and objections not explicitly repeated below are withdrawn.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-23 rejected under 35 U.S.C. 103(a) as being unpatentable over St Pierre et al (US 6959368) and in view of Huai et al (US 5673381).

As in claim 1, St Pierre describes a backup system for storing data objects on secondary storage devices (St Pierre's Fig 4), the backup system comprising a plurality of buffer memories for interfacing with the secondary storage devices (St Pierre's Fig 4: #34 #44 logical data input/output buffers storing work items to be backup to backup storage media #28a-e) and the back up system being configurable to couple at least a sub-set of the buffer memories in a daisy-chain (St Pierre's column 15 lines 31-50 describes the process of backing up work items into a backup trail, when it's finished, a second duplication process is carried out in a "daisy-chain" manner to back up work items into a duplication trail) for sequential storage of the data in the daisy chain as data objects on one of the secondary storage device (St Pierre's column 13 lines 9-10 clearly describes the back up trail including backup tapes that are backing up data in a sequential manner; St Pierre's column 1 lines 45-62 describes the backup process involves only a specific numbers of work items; The work item is defined as a data object, a datum to be stored in the computer system; St Pierre's column 17, lines 21-33). Although St Pierre does not explicitly mentioning the word "buffer" as in the claim. However, Huai describes a similar tape backup system using buffers allocated to tape storage drives (Huai's Fig 2: #14 buffer, columns 3,4). It would have been obvious to one of ordinary skill in the art at the time of invention to include the buffers as suggested by Huai in St Pierre's system to allow data to be buffered and transfers to tape drives so that more than one tape devices are executed immediately in a parallel manner, thereby further increase the throughput of the overall backup system (Huai's column 4 lines 14-22).

As in claim 2, St Pierre describes (a) the secondary storage devices (St Pierre's Fig 4: back up storage device, tape device; column 13 lines 9-10), (b) at least one backup media agent having a plurality of the buffer memories (St Pierre's Fig 4: #28a-b back up storage media and the corresponding media driver that executes write read command to the media #28a-b), and (c) a program module for writing data from the at least the subset of the buffer memories to the secondary storage device, the second storage device being assigned to the at least one backup media agent (St Pierre's Fig 4, logical duplication manager writing work items to backup storing media #28a ).

As in claim 3, the claim recites a backup group having a plurality of the backup media agents. The claim rejected based on the same rationale as in the rejection of claim 2. St Pierre's Fig 1, column 3 lines 1-3 shows a back-up group #28 consists of many back up storage media #28a, #28b).

As in claim 4, the claim rejected based on the same rationale as in the rejection of claim 1 and 2.

A for claim 5, the claim recites at least one mirror group comprising a plurality of the mirroring backup media agents. the claim rejected based on the same rationale as in the rejection of claim 2. St Pierre's column 3 lines 1-10 describes a "mirror" duplicated group Fig 1: #31 that has backup storage medium #28d that is an exact copy of backup storage medium #28a.

As in claim 6, the claim recites at least first and second ones of the mirroring backup media agents being coupled in a cascaded configuration for providing first and second mirroring levels. The claim rejected based on the same rationale as in the rejection of claim 1. St Pierre's column 3 lines 1-40 describes multiple copies of duplicated media are created to enhance the

security, reliability and availability of the data. Furthermore, these duplicated media are created in a cascading manner (i.e after the work items are stored in the first media, the duplicator will copy the work items from the first media to the second media; column 4 lines 6-15).

As in claim 7, the claim recites at least one restore media agent comprising a plurality of buffer memories and a program module for reading data objects from one of the secondary storage devices assigned to the at least one restore media agent, at least a sub-set of the buffer memories of the at least one restore media agent being coupled to at least a sub-set of the buffer memories of the backup media agents. The claim rejected based on the same rationale as in the rejection of claims 1 and 2. St Pierre's column 4 lines 28-65 clearly describe the restore process using the information in the backup catalog to mount the proper volume that the work items were stored.

As in claims 8-9, the claim recites at least one restore group having a plurality of the restore media agents (claim 8); the claim recites at least one restore group having a plurality of the restore media agents (claim 9). The claim rejected based on the same rationale as in the rejection of claims 3 and 7.

As in claim 10, the claim recites a plurality of client computer systems and a backup server, the plural client computer systems having primary storage devices for storing the data objects (Fig 4: #16 client's data, work items), and each client computer system having a backup component for assigning an unequivocal identifier to data objects and for sending the data objects with the assigned unequivocal identifiers to the backup server (Fig 4: # send work items to back up servers).

As in claim 11, the claim recites a plurality of buffer memories for sequential coupling data stored in at least some of the buffer memories to one of plural backup storage devices, and a configuration file for defining a configuration of the buffer memories for providing at least one level of data mirroring. The claim rejected based on the same rationale as in the rejection of claim 1. St Pierre further describes in column 4 lines 30-65 that Fig 4 #34 backup catalog and #30 back up media file system is configured to determine the proper duplicate volume where the work items are resided.

As in claim 12, the claim recites a server computer system comprising: a plurality of buffer memories for coupling data stored in the buffer memories to a plurality of secondary storage devices, a configuration file for defining a daisy-chain configuration of the buffer memories for sequential copying data objects from a first sub-set of the secondary storage devices to a second sub-set of the secondary storage devices. The claim rejected based on the same rationale as in the rejection of claim 11.

As in claim 13, the claim recites memory storing a computer program for controlling a computer system to cause sequential coupling of data from a plurality of buffer memories in a daisy-chain, the buffer memories being adapted to sequentially couple data from the buffer memories to secondary storage devices for back-up or copying of data objects, the computer program comprising instructions for reading a daisy-chain configuration definition of the buffer memories from a configuration file, and for causing sequential writing of data from a plurality of the daisy-chained buffer memories to one of the secondary storage device. The claim rejected based on the same rationale as in the rejection of claim 11.

As in claim 14, the claim recites a memory storing a computer program for controlling a computer system for providing a user interface, the computer program comprising instructions for enabling a user to enter a specification for a configuration of buffer memories of a backup system, and for enabling the buffer memories to interface with secondary storage devices for sequential storing or copying of data objects from at least some of the buffer memories to one of the secondary storage device. The claim rejected based on the same rationale as in the rejection of claim 1,12.

As in claim 15, the claim recites wherein the instructions enable a user to specify a daisy-chain configuration of the buffer memories. The claim rejected based on the same rationale as in the rejection of claims 1 and 11.

As in claim 16, the claim recites wherein the instructions enable a user to specify a backup group comprising a plurality of backup media agents, each backup media agent having a plurality of buffer memories and a program module for writing data from the buffer memories to one of a plurality of secondary storage devices being assigned to the backup media agent. The claim rejected based on the same rationale as in the rejection of claim 5.

As in claim 17, the claim recites wherein the instructions enable a user to enter a mirror group comprising a plurality of buffer memories and the program module for writing of data from the buffer memories to one of the secondary storage devices being assigned to the mirroring media agent, and for specifying the coupling of a at least a sub-set of the buffer memories of the backup media agents and at least the sub-set of the buffer memories of the mirroring backup media agents. The claim rejected based on the same rationale as in the rejection of claim 4.



As in claim 18-19, the claims recite wherein the instructions enable a user to enter a restore group, the restore group comprising a plurality of backup media agents (claim 18); wherein the computer instructions enable a user to enter at least one copy group, the copy group comprising backup media agents (claim 19). The claims rejected based on the same rationale as in the rejection of claims 7 and 5 respectively.

As in claim 20, the claim recites a method of storing data objects on secondary storage devices by using plurality buffer memories at least a sub-set of which is coupled in a daisy chain configuration, the method comprising the step of: sequentially storing the data objects on one of the secondary storage devices by sequentially reading the data object from buffer memories to the one secondary storing device. The claim rejected based on the same rationale as in the rejection of claim 1.

As in claim 21, the claim recites coupling the sub-set of the buffer memories in the daisy-chain configuration prior to the data objects being read from the buffer memories. The claim rejected based on the same rationale as in the rejection of claim 1. (St Pierre's column 15 lines 31-50 describes the process of backing up work items into a backup trail, when it's finished, a second duplication process is carried out in a "daisy-chain" manner to back up work items into a duplication trail). Figure 4 shows buffers are allocated for work items in backup trail and duplicated trail by the backup media file system manager #24b before the duplication is carried out.

As in claims 22-23 wherein the buffer memories are coupled to provide one or more data mirroring stages (claim 22) wherein the buffer memories are coupled to provide one or more data copying stages (claim 23). The claim rejected based on the same rationale as in the rejection of

claim 1. St Pierre's column 5 lines 1-20 clearly describes the system is capable of spawning multiple instants of processes to executes work items in multiple file systems. Thus multiple buffers are allocated for buffering work items being backed up and duplicated to secondary storage devices Fig 4 #28a-e.

### *Conclusion*

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

When responding to the office action, Applicant is advised to provide the examiner with the line numbers and page numbers in the application and/or references cited to assist examiner to locate the appropriate paragraphs.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Duc T. Doan whose telephone number is 571-272-4171. The examiner can normally be reached on M-F 8:00 AM 05:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mano Padmanabhan can be reached on 571-272-4210. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Mano Padmanabhan*  
8/17/06

**MANO PADMANABHAN**  
**SUPERVISORY PATENT EXAMINER**